

Focused Grant

Subject: Research Program - Fish Harvest

Background: There is a need to develop fisheries management tools to minimize the impacts of recreational and commercial harvest on wild anadromous fish stocks where they have experienced severe declines. These tools would not only assist in the recovery of the fish stocks but could help maintain viable commercial and recreational fishing industries by reducing the conflict.

The harvest of hatchery-derived chinook salmon is constrained by the need to limit the harvest mortality of the sensitive wild stocks mixed with them. More selective fisheries targeting hatchery-derived fish would result in higher harvests and less mortality of wild stocks. Mass-marking of hatchery fish may allow selective harvest of hatchery fish. However, because wild fish mix with hatchery fish, fishermen are likely to hook wild fish in their pursuit of hatchery fish. If the proportion of a particular run of salmon (e.g., winter run) is very low, individual fish could potentially get hooked repeatedly and suffer mortality as a result. Information related to the estimated hooking mortality in both the commercial fishery and in the freshwater and saltwater recreational fishery is needed to evaluate the potential effects of mass-marking. Techniques to minimize hooking mortality can also be effective tools to reduce any effects that may be identified with mass-marking.

Selectivity in salmon fisheries to minimize impacts on sensitive stocks can be increased in a number of ways. Some examples are development of better information on locations of sensitive stocks to more effectively target harvest, and evaluation of different harvest techniques to determine if they increase selectivity through innovation.

Proposed Action: A focused grant to develop fisheries management tools to decrease the effects of commercial and recreational harvest on sensitive stocks while maintaining the important industries supported by harvest. These tools could include research to refine the estimates of harvest impacts on sensitive salmon populations and to allow calculation of a fall run harvest rate, as well as research to estimate hooking mortality of wild salmon stocks as a results of both the commercial and recreational fisheries in marine, estuarine, and freshwater if hatchery fish are mass-marked. The results can be used to find ways to meet performance standards for commercial and sport salmon fisheries consistent with ecosystem restoration and with sustainable fishery goals (e.g., maximum allowable harvest impact on sensitive stocks such as winter run and spring run chinook salmon). Additional tagging and/or marking is not contemplated as part of this proposal.

Geographic Area: Throughout the entire Sacramento-San Joaquin Delta system, as well as distant fisheries in which salmon originating in the Bay-Delta are caught.

Recommended Funding: \$500,000.

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Coordination: CALFED staff should coordinate this proposal with the applicable regulatory agencies (NMFS and CDFG) before advertising the focused grant.

Additional information: Proposals should be evaluated for funding based on the Integration Panel's 1997 priority species and on the likelihood of ecological benefit (specifically, increased selectivity and reduced harvest impacts on sensitive stocks).

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